

WHAT IS CLAIMED IS:

1. An image forming apparatus, comprising:
processing units for respective colors of developing agents each of which can be attached to and detached from an image forming apparatus body, the processing units including:
a developing agent storage chamber that stores developing agent therein;
a developing agent holding member that holds the developing agent;
and
an image holding member that holds a developing agent image that is formed by development of an electrostatic latent image by the developing agent held by the developing agent holding member;
exposing devices for the respective colors of the developing agents, each of which is fixed to the image forming apparatus body and scans a laser beam to the image holding member in order to form the electrostatic latent image onto the image holding member; and
a cover member that is provided on a side opposite to a transfer position where the developing agent image held by the image holding member is transferred and that opens and closes with respect to the image forming apparatus body, wherein the processing units and the exposing devices are alternately disposed, and the processing units are attached to and detached from the image forming apparatus body via an opening defined by the cover member that is opened with respect to the image forming apparatus body.
2. The image forming apparatus according to claim 1, wherein the developing agent holding member is provided above the image holding member and the developing agent storage chamber is provided above the developing agent holding member in a state where the processing unit is attached to the image forming apparatus body.
3. The image forming apparatus according to claim 2, wherein a wall of the developing agent storage portion, extending in the processing unit attaching and detaching direction, extends substantially in a vertical direction or is inclined inwardly upward of the developing agent storage portion when the processing unit is attached to the image forming apparatus body.
4. The image forming apparatus according to claim 2, wherein an agitator that agitates the developing agent is provided in the developing agent storage portion, at a position near the developing agent holding member.

5. The image forming apparatus according to claim 1, wherein the processing unit includes:

a developing portion that includes the developing agent storage chamber and the developing agent holding member; and

an image holding portion that includes the image holding member, wherein the developing portion and the image holding portion can be attached to and detached from the image forming apparatus body in a state where the developing portion and the image holding portion are integrated with each other, and the developing portion can be attached to and detached from the image holding portion.

6. The image forming apparatus according to claim 5, wherein the developing portion can be attached to and detached from the image holding portion in a state where the image holding portion is fixed to the image forming apparatus body.

7. The image forming apparatus according to claim 5, wherein the image holding portion includes an engagement portion and the developing portion includes an engaging portion engageable with the engagement portion.

8. The image forming apparatus according to claim 7, wherein the developing portion includes an operating portion in order to release the engaging portion from the engagement portion.

9. The image forming apparatus according to claim 5, wherein the image holding portion includes a first guiding portion that guides the developing portion so that the developing agent holding member faces the image holding member, and the developing portion includes a first guided portion that is guided by the first guiding portion.

10. The image forming apparatus according to claim 9, wherein the image forming apparatus body includes a second guiding portion that guides the attachment and detachment of the developing portion with respect to the image forming apparatus body.

11. The image forming apparatus according to claim 10, wherein the developing portion includes a second guided portion, and the second guiding portion guides the second guided portion of the developing portion so that the first guided portion of the developing portion is guided to a guide start position of the image holding portion attached to the image forming apparatus body.

12. The image forming apparatus according to claim 10, wherein the image forming apparatus body includes a third guiding portion that guides the attachment and detachment of the image holding portion with respect to the image forming apparatus body.

13. The image forming apparatus according to claim 12, wherein the second guiding portion and the third guiding portion are provided so as to be opposite to a surface of a casing of the exposing device, and are substantially in parallel with each other.

14. The image forming apparatus according to claim 12, wherein a surface of a casing of the exposing device serves as a guide member of the image holding portion.

15. The image forming apparatus according to claim 12, wherein the second guiding portion and the third guiding portion are provided in sides of the image forming apparatus body, in axial directions of the developing portion and the developing agent holding member, so as to be opposite to the respective second guiding portion and the third guiding portion.

16. The image forming apparatus according to claim 12, wherein a cushioning member that receives a received portion of the second guided portion of the developing portion or a received portion of the image holding portion is provided in at least one of a deepest recess of the second guiding portion and a deepest recess of the third guiding portion.

17. The image forming apparatus according to claim 1, wherein the processing unit includes a grip to be held by a user.

18. The image forming apparatus according to claim 17, further comprising an operating panel to be operated by the user, wherein the grip includes a hook extending toward a side opposite to a side where the operating panel is provided.

19. The image forming apparatus according to claim 1, wherein the processing unit can be placed in both a vertical position in which the image forming member and the developing agent holding member are aligned in a vertical direction, and in a horizontal position in which the image forming member and the developing agent holding member are aligned in a horizontal direction, and the processing unit includes a first contacting portion, which contacts an installation plane when the processing unit is placed in the vertical position, and a second contacting portion, which contacts the installation plane when the processing unit is placed in the horizontal position.

20. The image forming apparatus according to claim 1, wherein the processing unit includes a charging device that is disposed opposite to the image holding member and electrically charges the image holding member, and wherein the charging device is movable between a first position where the image holding member and the charging device are aligned in a processing unit attaching and detaching direction and a second position where the image holding member and the charging device are aligned in a direction orthogonal to the processing unit attaching and detaching direction.

21. The image forming apparatus according to claim 20, wherein the charging device is a first contacting portion when the charging device is located at the first position.

22. The image forming apparatus according to claim 21, wherein the charging device includes a charging wire and a cover covering the charging wire, and wherein the cover is the first contacting portion.

23. The image forming apparatus according to claim 1, wherein a filling aperture is provided to one wall, in a longitudinal direction of the developing agent holding member, of the developing agent storage portion at a position far from the developing agent holding member in order to pour the developing agent into the developing agent storage portion.

24. The image forming apparatus according to claim 1, wherein the developing agent remaining on the image holding member after the developing agent image held by the image holding member is transferred onto a recording medium, is collected by the developing agent holding member.

25. The image forming apparatus according to claim 1, wherein the developing agent is toner having substantially a spherical shape.

26. An image forming apparatus, comprising:
processing units for respective colors of developing agents each of which can be attached to and detached from a image forming apparatus body, the processing units including:

a developing agent storage chamber that stores developing agent therein;

a developing agent holding member that holds the developing agent;
and

an image holding member that holds a developing agent image that is formed by development of an electrostatic latent image by the developing agent held by the developing agent holding member;

exposing devices for the respective colors of the developing agents, each of which is fixed to the image forming apparatus body and forms the electrostatic latent image onto the image holding member; and

a cover member that is provided on a side opposite to a transfer position where the developing agent image held by the image holding member is transferred and that opens and closes with respect to the image forming apparatus body, wherein the processing units are attached to and detached from the image forming apparatus body via an opening defined by the cover member that is opened with respect to the image forming apparatus body, and the

image holding member, the developing agent holding member and the developing agent storage chamber are overlapped in a direction to attach and detach the processing units, in each of the processing units.

27. The image forming apparatus according to claim 26, wherein the processing unit includes a supply device that supplies the developing agent stored in the developing agent storage chamber to the developing agent holding member, and the supply device, the developing agent holding member and the developing agent storage chamber are overlapped in the processing unit attaching and detaching direction.

28. The image forming apparatus according to claim 27, wherein the supply device is disposed in a plane of projection of the developing agent storage chamber in the processing unit attaching and detaching direction.

29. The image forming apparatus according to claim 27, wherein the supply device is provided between the developing agent holding member and the developing agent storage chamber.

30. The image forming apparatus according to claim 26, wherein the image holding member and the developing agent holding member are disposed in a plane of projection of the developing agent storage chamber in the processing unit attaching and detaching direction.

31. An image forming apparatus, comprising:
processing units for respective colors of developing agents each of which can be attached to and detached from an image forming apparatus body, the processing units including:

a developing portion that includes a developing agent storage chamber that stores developing agent therein and a developing agent holding member that holds the developing agent; and

an image holding portion that includes an image holding member that holds a developing agent image that is formed by development of an electrostatic latent image by the developing agent held by the developing agent holding member; and

exposing devices for the respective colors of the developing agents, each of which is fixed to the image forming apparatus body and scans a laser beam to the image holding member in order to form the electrostatic latent image onto the image holding member, wherein the developing portion and the image holding portion can be attached to and detached from the image forming apparatus body in a state where the developing portion

and the image holding portion are integrated with each other, and the developing portion can be attached to and detached from the image holding portion.